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ABSTRACT

This report describes a collaborative project of Ohio State University and the University of Amsterdam (The Netherlands). Over the course of 12 months, students and faculty from the two universities offered a merged graduate course on telecommunications policy in the European Community and the United States. They reciprocated three week visits and used the Internet, audioconferences, and videoconferences between visits. The purposes of the collaboration were: (1) to exchange country-specific policy expertise; (2) to better understand the social and technical issues of conducting intellectual work among geographically/culturally distributed partners; and (3) to develop a group decision support system that supports a distributed work environment. Issues in developing and implementing international joint ventures are discussed, and the design of an integrated travel and telecommunications academic infrastructure is considered. (Contains 17 references.) (Author/KRN)

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International academic joint ventures: Using telecommunications and travel in a distributed work environment

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Introduction

The need for international academic joint ventures

In business, the importance and difficulty of conducting international joint ventures are both well known. Bleeke and Ernst (1991) examined the fifty largest companies (ranked by market value) in each of three market domains: the United States, Europe, and Japan. In over 80 percent of the cases, the need for joint ventures was "compelling." Reasons for joint international ventures included to open markets, to meet competition, and to leverage expertise. However, inspite of this importance and the presumed energy put into making joint ventures succeed, "two-thirds of the cross-border

alliances ran into serious managerial or financial trouble within the first two years" (Bleeke and Ernst, 1991; p. 127).

Players in the academic "marketplace" have comparable reasons to form international alliances. Many U.S. and European institutions draw students from beyond their national boundaries, a multicultural student/faculty body is a positive in times of social diversity, and specialized expertise can be leveraged around the world. In addition, students can benefit from a broader range of courses offered by collaborating universities. However, because of lack of venture capital and the difficulty of evaluating "output," academic institutions may face even greater obstacles than their commercial counterparts in developing international collaborations.

Resource and competency based collaborations

In the United States, the best known attempts at academic collaboration may be those among business schools now facing declining enrollments and reduced financial resources. One example with an international dimension involves Harvard, Wharton, Stanford, MIT, and Northwestern who are jointly conducting a program for faculty who teach in Central and Eastern Europe (Fuchsberg, 1992). Despite their individual strengths, no one school has the breadth of expertise to offer a comprehensive course in business to such a student population, nor can any one school shoulder the risk and costs of such a program.

The Europeans travel to any of the five U.S. campuses for a core management curriculum and then return home. The following year they travel back to a single U.S. campus for specialization. This collaboration can be described as a *resource-based* exchange (U.S. management expertise exchanged for European student fees).

In resource-based collaborations, each partner contributes a necessary input to the joint venture. A steel producer needs both coal and iron, a retail product needs manufacturing and distribution, a study abroad program exchanges a standard curricula for "guest" student fees. The defining factor of a resource-based joint venture is that each contributor has a "natural advantage" in the resource area that it contributes and that the collaboration leverages that natural advantage rather than threatens it.

Competency-based collaborations are a special class of resource-based collaborations in which knowledge is the currency of exchange. Each partner contributes its expertise in a specific knowledge domain. The distinction here is that the "natural monopoly" on information is not as strong as with joint ventures based on other resources. In the process of sharing information, each partner is relinquishing its

expertise to the other. Each partner becomes more self-sufficient rather than more interdependent over the life of the collaboration. Thus, competency-based joint ventures have less inherent stability than do resource-based collaborations (see Lane and Beamish, 1990 and Pucik, 1988 for a discussion of resource and competency based collaboration). The project discussed in this paper is a competency-based collaboration. Program costs are shared, but student FTE and faculty salary costs remain in the independent purview of each partner.

Travel and telecommunications based collaboration

On another dimension, the business school consortium described above is a *travel* dependent form of collaboration. It is based on the standard study abroad program model in which students travel to a foreign institution and pay fees for that privilege. Study abroad programs offer participants rich "immersion" experiences by allowing students to test their understanding about their host culture and to look back at their own society to better see its operating cultural assumptions. The drawbacks to study abroad programs are the time and money costs that preclude study abroad for many students.

Collaborations also exist that rely on telecommunications rather than travel. Faculty at a "home" institution may offer teledelivered courses to "remote" campuses. Alternately, a course unique to one campus may be exchanged for another course unique to the collaborator. Whereas travel offers the benefits of cultural immersion, telecommunications-based distance education offers relative economy and convenience for the student. Distance education offerings face challenges in promoting interaction and engagement among students and faculty, students and students, and students and the material (Moore, 1992).

Planning for joint ventures of the type discussed here should begin with an inventory of the resources and competencies of each partner. The second step is to assess the mix of travel and telecommunications to be used in the collaboration. We will argue that successful collaborations are most likely among partners of comparable resource bases but divergent competencies (Bleeke and Ernst, 1991; Pucik, 1988) and that sandwich telecommunication-based educational experiences between activities that require travel. Travel-based activities promote strongly formed impressions and offer an interpersonal environment in which to test them. Telecommunications-based activities may offer greater access to background material and can electronically capture discussion for later reflection. Allocating resources, defining the exchange of competencies, and

sequencing and balancing travel- and telecommunication-supported activities are the principal foci of the planning process.

Through the EC's Eyes- An international academic joint venture

Conceptual underpinnings

Through the EC's Eyes is an international academic joint venture between Ohio State University (OSU) and the University of Amsterdam (UvA). The initial contact was made between two friends, an OSU faculty member and a UvA development officer. This pairing facilitated thinking about each university's competencies and resources within a relationship of mutual trust. After an initial resource match (institutions of comparable size, library and computer resource base, and academic mission) the pool of contributing faculty was enlarged and through the exchange of faxes and phone calls an initial goal statement was created. At the same time, the OSU development officer was brought in to coordinate fund raising activities in the United States.

The goal statement was: To improve the educational and research environments for faculty and students at each university through the effective sharing of resources and competencies between the two institutions. Telecommunications policy, the process through which competing individual interests participate to form a common social contract (policy), was established as the focus of the collaboration. We chose a *comparative analysis* approach to illustrate how different social and technical forces lead to different policy solutions.

We decided that travel and telecommunications both had to be used in this project. Because the social context of policy has deep cultural roots, participants should experience *in common* each other's environments to appreciate the cultural influence on policy. The benefits of this reciprocal travel are twofold. First, the cultural "taken for granteds" surface when the host culture is viewed through "alien" eyes. Second, questions posed to the hosts create debate and destroy the notion that there is a stereotypic Dutch or American perspective on issues. By fracturing deep-rooted cultural assumptions, influences on the policy process surface and are called into question (Hefstede, 1980).

We also acknowledge the importance of using telecommunications in this joint venture. The benefits of face-to-face interaction in common environments cannot be replicated via telecommunications, but the cost of extended travel makes the educational experience prohibitive for many students who can make strong contributions to such a program. For example, several married students could arrange to be gone for three

weeks, but could not participate if they would be away from home for several months. By exchanging many of the educational activities via telecommunications, more students with stricter time and financial restraints could participate. In addition, the familiar library and faculty resources "at home" give participants easier access to background material on the topic of study. Yet without the initial travel and promise of a later reunion, there is less incentive for collaborators to engage the material and fellow students over e-mail, audio- and video exchanges (Acker, Clift, and Branco, 1985).

Planning and implementation issues: A chronology

The first face-to-face meeting among project principals occurred in Holland in November of 1991, approximately eight months before the proposed first meeting of the students. Because of its ideal fit with comparative analysis and its topicality, *1992 and the European Community* was chosen as the initial focus of this joint program. We agreed that a maximum of fifteen persons from the United States would come in the inaugural June 1992 trip. We also decided that policy subareas would be researched by student teams represented by at least one U.S. and one Dutch student. This strategy was nicknamed "twin peaks," and became the organizing metaphor for the course.

Winter quarter of 1992 was mostly devoted to fundraising activities. By this time, both sides were committed to the project, but needed to find approximately $US20,000 to allow the project to go forward. This period was marked by a great deal of uncertainty and frequent phone and fax exchanges. During this time, the project leaders developed a degree of trust among themselves that permitted the risk taking required to invest a good deal of time for an uncertain payoff.

In Spring quarter of 1992, the OSU faculty member taught a seminar on the European Community. The course was structured as a meeting of 12 ministers to the European Council, each representing one of the 12 EC countries. Their responsibility was to develop policies for HDTV and cellular telephone that would serve the common good of the Community without raising insurmountable objections from any one country.

In addition to a weekly face-to-face meeting, the students contributed to a policy simulation implemented as a Macintosh-delivered hypermedia program. The simulation gave each student individual access to the multiple communication fora in which policy is influenced. Specifically, participants moved among: (1) The Council- here representatives type in or make short digital video formal, policy recommendations. As with a face-to-face setting, all contributions to The Council are attributed. Ultimately, a vote is taken in The Council to ratify a policy, (2) The Pub- the visual setting is a bar

and the exchanges in this PUBlic area are anonymous or signed at the participant's discretion. The Pub encourages controversial "leaks," pointed critiques, and allows ministers, to "test the waters" on various positions without committing to positions, (3) The media- includes a newspaper and a television newscast. The media reflect the general opinion of the societies. The instructor controlled this fora and used it to bring issues to the attention of the student ministers concerning how their ideas would "play" to a larger audience, (4) electronic mail- this private exchange mechanism allowed coalitions to form behind the scenes. Messages exchanged in the electronic mail forum were all attributed (not anonymous) but made available only to selected recipients, and (5) The library- a depository for published references on the topics at hand. See Acker (1992) for a fuller discussion of this decision-making tool.

In some respects, this educational environment provided a pre-test of the integrated travel and telecommunications environment on which the OSU-UvA collaboration was based. A formative evaluation of the combined face-to-face and computer-based learning environment was conducted by outside researchers. They found that the principal benefit of the hypermedia simulation was that it allowed students to reflect on their contribution to the group decision making process rather than react "off the cuff" as occurred in the face-to-face meetings. The backward trace of the public reasoning process also was valued by users. On the negative side, the slowed down pace of exchanges was felt to restrain the "brainstorming phase" of decision making (Davey and Vlasko, 1992). Once the technical issues of wide area network file sharing are resolved, the simulation will be conducted over Internet with stronger cultural identification between students and the players they represent.

At the very end of Spring quarter, the needed funding was finalized. Enough funds were gathered to provide air fare and housing for three weeks in the Netherlands, (about $US900 per person) to participants. Vita, goal statements, and advisor input were solicited. Based on these data, nine students were selected. Importantly, one slot was reserved for the OSU librarian in charge of telecommunications and another for a student expert in documentary video. These contributors were important for creating a record of the trip, and for understanding how our two libraries could support each other's students and faculty later in the project.

The visit to Holland began with a welcoming party of Dutch students at the airport and an evening reception hosted at the University of Amsterdam. The emphasis at this stage was on the formation of social relationships. Over the next three weeks, these social relationships would evolve into working relationships.

The visit was organized around almost daily trips to agencies in and outside of Amsterdam and frequent guest lectures by local experts. Early in the visit, the entire study group consisting of both student groups and faculty traveled to Brussels, the headquarters of the European Community. This proved important as a bonding experience in which both Dutch and American students found themselves jointly facing the joys and frustrations of foreign travel.

During the three weeks, student teams produced a preliminary and final report on such topics as "Should the EC have an FCC?," "What is the nature of universal service?," and "DBS as a transnational broadcast service." The final report was presented orally and served as the basis for an article in a Proceedings published two months later.

On the last day of the visit, the first three week phase of the project was evaluated by the students. In general they were very satisfied with their interaction with their twins and assessed 16 of the 18 lectures and excursions above the scale mean The overall experience was rated positively, and 18 of the 20 students expressed a desire to continue participation the following summer in the United States (Bouwman, 1992).

Negative aspects of the trip included: (1) poorly communicated and changing expectations on the part of instructors, (2) too little time for reflection and completion of assignments, and (3) the inadequacy of the computer infrastructure at UvA (Bouwman, 1992). These criticisms are central to the refinements proposed for the summer 1993 visit of the Dutch to Columbus. We will begin with pre-assigned guest computer and library privileges. More importantly we will set expectations early and try not to have them evolve over time. Finally, we will not make the mistake of the novice tourist and overpack the visit with too much action and too little reflection. These lessons remind us to stay learner-centered, as our initial teacher biases were to provide as much variety in exposure as possible and forgive ourselves the midcourse changes we considered "responsiveness" but that the students labeled "confusion."

There are forty six weeks separating the two visits. During the first twenty, we have completed the Proceedings and the documentary video to present to funders to earn their continued support. Students and faculty are exchanging messages over Internet, and a series of audio and videoconferences are being planned for April and May of 1993. During that Spring, parallel courses will be held at OSU and UvA. Veterans of the previous summer and new students will be integrated as work teams on a new set of telecommunications issues that will be continued in the summer. Tentatively, we will consider social, economic, and technical issues surrounding personal communication networks.

Overarching issues of international joint ventures

Why synergy fails

Initially, we felt this collaboration would sell itself. At a suprasystem level, the benefits of sharing faculty expertise seemed irrefutable. Students receive greater exposure to new faculty, new worlds, and new issues. Each institution retains the "credit" for educating their respective students. There is apparent synergy operating because each contributing institution leverages its resources and gains proportionally greater benefits. "On paper," the rationale for the joint venture is clear. Nonetheless, the high proportion of failed joint ventures suggests we should examine this apparent synergy more carefully.

What our experience makes clear is that the suprasystem level benefits are delivered if, and only if, each of the contributing subsystems accrues benefits. In this case, those subsystems are: (1) students, (2) faculty, (3) the library, (4) the computer support services, and (5) the institution. *Small diseconomies in any subsystem will unravel the collaboration even if suprasystem level benefits are large*. If we succeed in maintaining this collaboration beyond its initial stage it will be because we have satisfied needs in each subsystem. If we fail in any, the lost allegiance of the important resource or competence will undermine our joint venture.

In the case of students, they must be convinced that this educational experience is out of the ordinary. Participation incurs costs, disrupts daily life, and promises surprises, some of them unpleasant. Students need to garner the rewards of traditional teaching arrangements. They must receive appropriate course credit, develop networks valuable to their future, and sense equity in the work expected of them for the benefits they receive. Only then do the excitement and opportunities of travel and participation in new electronic meeting fora make sense from their perspective.

Faculty from each institution must receive "credit" for teaching the course. The collaboration will dissolve if the project is conceived as a reciprocal overload. International collaborations offer the powerful incentives of an opportunity to work with colleagues from other institutions and travel. If the work of collaboration is seen as a faculty-born "cost" by the faculty's administration, the collaboration is vulnerable to competing "extra curricular" responsibilities.

In general, library and computer support personnel encourage use of the resources they control. However, if new demands are made on them because of new institutional relationships, they legitimately should expect resources and benefits to be provided. In our project, the key librarians receive travel support. This allows the librarians to extend

their professional horizons and to enjoy the pleasures of travel. It offers incentives to deal with yet more students and faculty.

The computer support people also should be provided travel. However, another reason for participation from this group is that much computer-based research is occurring in the area of distributed systems (Kling, 1991, McConnell, 1991). Technical collaborations require human support systems and shared problem solving skills. This application provides a defendable rationale for experiments in distributed systems that is attractive to computer professionals.

Institutions need ways to use their resources efficiently and in the service of their overall institutional mission. The traditional mission of higher education, to provide competent citizens and workers able to adapt to a changing world is under challenge. Funding reductions are forcing institutions to rethink the relationship between specialized faculty and broadly educated students.

Institutional needs: Generalists in an age of specialization

Higher education is caught in an apparent double-bind. On one hand, there is such a vast accumulation of knowledge to be transferred, universities must partition research and education among subdisciplines. On the other hand, arcane expertise divorced from arenas of application is trivialized in the public's eye. In economically stressed times, the popular cry: "Do more with less" results. Unless the university community can respond to the paradox of specialization, education will be driven toward superficial breadth.

Disciplinary trends toward overspecialization challenge faculty and their students at universities around the world. To publish, faculty and graduate students must orient their work to narrowly defined audiences. These researcher/knowledge communities can become self-referential and, through either neglect or indifference, can sever their connection to larger academic or social communities. This isolation leads to the appearance of irrelevance. Ultimately, this self-centering leads to social marginalization which can threaten the existence of those subdisciplines that have lost the gift of association to larger issues and audiences. Students and faculty both can be victimized by an unchecked trend toward narrowness.

Administrators are caught with different problems created by overspecialization. In the largest budgetary area, personnel, they approve contracts of faculty hired on reputations and competencies often narrowly drawn. They must allocate library budgets ample to maintain research collections even as the universe of new journals grows by

5,000 titles each year (Rogers and Hurt, 1989). Alumni, boards of governors, and boards of regents demand comprehensive curricula, particularly from publicly-supported institutions whose charters emphasize universal coverage of knowledge.

To escape this squeeze, specialized knowledge communities must convince themselves and the public that *a well-educated individual is one who knows deeply and intimately issues in a particular knowledge domain and who can see procedural, functional, and methodological connections with other areas of inquiry.* This definition of a generalist advocates that the goal of higher education should be connections among knowledge domains rather than a canvassing of introductory treatments. The dilemma is how to finance and support this approach to generalized, useful knowledge.

We would argue that this breadth through depth is the intellectual justification for collaborative work, permitting specialists to develop as generalists through a comparative process. The key conceptual issue of collaboration is to create a partnership that promotes general knowledge without diluting specializations, to create three-dimensional generalists instead of superficial (two-dimensional) generalists. The key pragmatic issue of collaboration is to avoid intellectual jealousy and the paranoia of intellectual isolation, the twin lifeblood's of enclaved overspecialization. The selection process that brings partners together is the operationalization of the intellectual and pragmatic issues of successful collaboration.

Demonstrable outcomes

Partners that collaborate across institutional boundaries must demonstrate the benefits of the joint venture. Many constituencies will argue that an institution's resource base is too small for its own members, let alone ample for others. To address these arguments, collaborators must have concrete support for the benefits of their project. In our case, we addressed this issue by jointly publishing a twelve chapter Proceedings of the students' research, by creating an 11 minute videotape that portrays the activities and outcomes of the project, and by retaining the student contributions to the computer simulation as an objective record of learning. In addition, students are assessing the course at each stage, when possible using standardized instruments for comparison to typical university offerings. Finally, administrators and faculty have been involved from the beginning in formative evaluation activities.

The integrated learning environment

We have discussed the benefits of immersion permitted by travel and the

convenience and increased participation made possible by telecommunications. If we think of policy making as an example of the general class of problems approached through group decision making processes we can identify other benefits of an integrated learning environment.

Travel-based exchange programs require face-to-face negotiation which permits private interaction through which to size up other group members and to test cultural assumptions by going out into the society allegedly based on those assumptions. If only select members of the group participate in the decision making process, the collaboration exhibits a hierarchical rather than "flat" decision making structure. The interpretive skill of the experienced traveler bounds the group's learning capability.

Telecommunications-based joint ventures increase participation, and can broaden the range of interpretive skills, brought to the problem (Grudin, 1991). Telecommunication-based collaborations also can reduce the time required to reach a decision. "Group think" is a potential cost of broad participation in face-to-face decision making and carries over to audio and video conferences, especially if individuals are concerned about the cost of the telecommunications links (Markus and Connolly, 1990).

Telecommunications and the Distance-Space distinction

We acknowledge that telecommunications offers convenience and costs savings for human interaction. However, we are concerned that the success telecommunications has had in overcoming distance is understood as capturing the contribution of space (attributes of rooms, buildings, etc.) to human activities such as learning and working. This is a key argument for augmenting telecommunications with travel. Electronic meetings span *distances* but they leave collaborators in "bubbles," the surfaces of which only rub-up against each other. They are not permeated so that collaborators can share *space.*

We are not yet sophisticated in our understanding of what sharing space offers to collaboration, but agree with Bachelard's (1964) description of the primacy of space in our activities and memories: "[The space in which we are housed] is a group of organic habits. After twenty years, in spite of all the other anonymous stairways, we would recapture the reflexes of the 'first stairway,' we would not stumble on that rather high step. The house's entire being would open up, faithful to our own being. We would push the door that creaks with the same gesture, we would find our way in the dark to the distant attic. The feel of the tiniest latch has remained in our hands" (p. 14-15). Shared space implies *relationships suspended in physical context*, a misanthropic metaphor of

two or more caught in a spider's web comes to mind; the positive image is two dancers in studio. In either scenario, and in face-to-face meetings, the interactants are in a common physical space that influences their actions and understandings. Distance spanning telecommunications technologies remove the spatial context of information exchange. Although we cannot now assess this loss, we can avoid it by using travel to share space for at least part of the collaborative relationship.

Summary and Conclusions

At the most general level, *Through the EC's eyes* is about the public policy process through which individual self-interests compete to define procedures and guidelines to achieve the collective good. More specifically, *Through the EC's eyes* is about telecommunications policy. It addresses this specific goal by comparing telecommunications policy in the United States and in the European Community. The collaborators in the ongoing project claim competence in the policy process of their respective countries and the universities have comparable resource bases in support of their programs. The development of competent generalists is an intended outcome to be achieved by looking at the process of policy formation simultaneously within two different cultural contexts. The combination of concrete travel-based experience and more abstracted telecommunications-based reflection establishes an integrated learning environment in which to achieve the defined objectives.

We would argue that the resource bases of stand-alone institutions have been reduced to the point that students have great difficulty balancing their needs for specialization and general problem solving skills. Perhaps the new communications environment can support a new model for higher education that levers the benefits of abstract theory on the fulcrum of lived experience across cultures. If this is obtainable, and if it is relevant, it implies travel and face-to-face interaction/confrontation of differences. It also requires satisfying needs at the level of each contributing subsystem and not just at the level of the general good.

A reader might object to this paper as written at too conceptual a level, uninformative about issues such as converting X.25 to TCP/IP across computer gateways, and exchanging 56kb/s video building blocks with 64 kb/s video building blocks in digital videoconferencing. Future writings will detail the logistics of travel and the particulars of technical solutions. However, the success of collaborations is much more dependent on selecting your partners wisely, ones that are comparably resourced, differentiated in their competencies, cognizant of subsystem needs, and able to establish

trust among all levels of both systems. This is the basis on which we are pursuing this international academic joint venture. We hope we understand the threats to its continuation well enough for it to survive.

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